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ESSAYS AND CASES.

ART. I.—*A discourse on* INTEMPERANCE; *delivered by appointment, at a public meeting of the Agricultural Society of Hamilton County, Ohio, March 1st, 1828, and subsequently pronounced, by request, before a popular audience.* *By* DANIEL DRAKE, M. D.

"The pestilence that walketh in darkness."

[*Concluded from No. I.*]

SEC. V.—OF THE MORBID EFFECTS OF ARDENT SPIRITS ON THE BODY AND MIND.

We have already seen that alcohol is a poison. Taken undiluted, even in no great quantities, it kills suddenly;—used daily, in smaller doses, diluted, it is a slow poison, and kills at a more distant time,—but with equal certainty. Even a single fit of drunkenness is a disease which may prove fatal; and the frequent recurrence of such an attack, especially in early life, is seldom long sustained. Great injury to health and constitution may, however, be occasioned by the habitual use of ardent spirits, though actual intoxication be studiously avoided. The proper limits of a discourse do not admit of a full account of the various disorders of body and mind that are occasioned by this abuse; but enough may be said, to warn those who are about to yield to temptation, of the diseases they should prepare to encounter.

The disorders of body produced by habitual intemperance, are various in different persons, and at different periods of life.

1. In nearly all, the Stomach, from being the receptacle of the poison, becomes greatly disordered. At an early period the appetite begins to decay, and at last is almost extinguished. The stomach becomes irritable, and vomiting occurs in the morning. At length, a great degree of irritation, and sometimes actual inflammation, takes place in the inner surface of that organ; and, indigestion or dyspepsia, with its loathsome crudities and cankering acids, becomes permanently established.

2. Next to the stomach, the Liver is, perhaps, the greatest sufferer. At first it is strongly excited, and secretes an excessive quantity of bile, which leads the inebriate to say that he is bilious; for which, with admirable facility, he resorts to bitters: thus recklessly feeding the flame with spirit, instead of quenching it with water. Actual inflammation at length supervenes, and is harrassed with a slow fever. In the progress of time, the liver becomes changed in its texture, hardened, and obstructed. It fails to secrete bile, and a dark and muddy Jaundice indicates the approach of death, which is seldom slow in arriving.

3. From sympathy with the stomach and liver, or in some other way, the Lungs become affected. A cough supervenes, with an offensive discharge of phlegm in the morning. If the patient were predisposed to asthma, great difficulty of breathing ensues; or, if inclined to consumption, the fatal malady is hastened in its approaches.

4. The feet swell with a Dropsy, not easily removed, and the abdomen becomes the seat of dangerous watery accumulations. Still oftener, a hopeless dropsical effusion takes place into the chest and about the heart, which labours like a wheel under water. The patient has a distressing cough, is unable to ascend to the second story of his workshop, or climb the lowest hill on his farm; finds himself obliged, at length, to abandon every kind of business, for want of breath; and sits up all night for weeks, lest he should be suffocated by lying down—an event which often happens at a moment when it is not ex-

pected by those about him. Many remarkable examples of sudden death, from this cause, might be mentioned. I will recite one, which fell under my own observation in this city.

A man with a family, gradually became a sot; and at length fell into a dropsy of the chest. His career of intemperance extended through several years, during which his perversions of temper, and inattention to business, of course led to occasional jarrings between himself and his wife—an ambitious and worthy woman. Finally, he died suddenly, and without any special warning, about the dawn of day, having risen and dressed himself. I reached the house as he breathed his last, and was in no degree surprised, for I had forseen the termination of his career. But some of his neighbors, being ignorant of what might, rationally, be expected, were in a very different state of mind; and before night, it was insinuated that the wife had committed murder. Thus the intoxication of the husband, which imbittered the existence of the wife for years, might at last have brought upon her the horrible reproach of having caused his death, had no professional man been present to make the explanations necessary to her exculpation.

5. Gout is well known to be the offspring of intemperance; but, from the influence of other causes, it is a rare disease in the United States, especially in the West. Rheumatism is, however, a frequent malady; and, in its chronic forms, is often rendered obstinate by intemperance.

6. All drunkards are liable to Sore Eyes. The disease is sometimes of the lids only: at others, of the whole front of the eye-ball, and attended with an offensive discharge. The young drunkard looks upon this malady with concern. He knows it to be the consequence of his intemperance, and fears that it may betray him to society. To prevent this, he resorts to the aid of *bottle* green glasses; but his sagacity is like that of the owl, which thrusts its head into a cavity of the wall where he is confined;—he blinds his own eyes, but leaves those of his neighbors open to his shame; for by this time, his insobriety is disclosed by many symptoms.

7. Another conspicuous sign of intemperance, is the fiery eruption on the nose and upper part of the cheeks, which, by

a desecration of language, has been called *Gutta-rosacea*, or ROSE-DROP. Actual drunkenness is not necessary to the production of these pimples; nor, indeed, are they exclusively confined to those who drink. They so seldom, however, appear on any others, that the man on whom they begin to sprout forth, may reasonably be suspected.

8. I have known several drunkards, in middle life, affected with LEPROSY (*Lepra Græcorum*). The whole surface of their bodies became red and puckered; the skin cracked open, and a thin acrid matter oozed forth, attended with intolerable itching; finally, immense quantities of scales, resembling those of small fish, were daily formed, and fell off in loathsome showers. I have never known a patient restored from this disgusting malady, while he continued to drink.

9. A much commoner consequence of intemperance, is WEAKNESS OF THE MUSCULAR SYSTEM, WITH TREMORS. This condition of the inebriate prevails in the morning, when his strength is that of a child, while his tremors are those of old age. He is unfitted for any employment that requires steadiness of nerve, and when he signs his name to promissory notes, given, perhaps, for debts contracted in consequence of his intemperance, the zig-zag lines betray to all attentive observers, that they will, probably, never be discharged.

10. EPILEPTIC CONVULSIONS are a more dreadful effect of his intemperate course. They are by no means uncommon, and often prove fatal; though, in many cases, not until they have induced fatuity.

11. APOPLEXY is also a drunkard's disease. It occurs in every stage of his melancholy career, but oftenest in old age. It sometimes proves mortal in a single day or hour, or may terminate in palsy of one side of the body; but the latter malady often precedes the former. Thus the individual, when apparently in health, begins to limp; and, without any obvious cause, gradually, loses the use of one leg. Possibly his friends know not the reason; for he may have been a quiet sot, avoiding convivial scenes, and pursuing a regulated course of secret drinking. He resorts to liniments and patent essences; but the seal of death is upon him, and his halting continues

to increase, till at length a sudden stroke of apoplexy ends his days, or strikes motionless and senseless one half his body; in which state he may continue to live for years, and to impose on her whom he had sworn to support, and protect, and cherish, the most disgusting servitude,—rewarding her, under the degrading task, with all the outbreakings of a perverted and vicious temper.

12. Intemperance predisposes the body to SPONTANEOUS COMBUSTION. On this point facts have multiplied, until the most incredulous inquirer can scarcely retain his doubts. The bodies of corpulent inebriates, when asleep, have, in several instances, taken fire, by the accidental contact of a burning coal or candle, and all the soft parts have been reduced to ashes, or driven off in clouds of thick smoke. To conceive of the possibility of this revolting catastrophe, we need only recollect the combustible nature of fat, and the still more inflammable quality of ardent spirits, which is composed of the very same materials; and which, being swallowed, daily, in excessive quantities, with reduction of food, may be presumed to alter, to a certain degree, the chemical composition of the body. Meanwhile its vital powers become greatly reduced, and thus render it an easier prey to fire or other external agents.

Lastly. Habitual drinking generates a BAD HABIT OF BODY. which renders the individual liable to violent attacks of disease from slight accidents; and causes various disorders to terminate mortally, which might otherwise be cured. Hence the life insurance of a drunkard, in ordinary health, must always be at a higher premium, than that of the temperate—a fact which is doubtless known to the underwriters. I am aware that drunkards boast of escaping many of the epidemic diseases by which the temperate are assailed. But if this happen at any time, it is because the artificial fever is kept up throughout the epidemic. If they relapse into sobriety, they are more liable to attacks than other people; and when assailed, are far likelier to die. The greater mortality of their diseases, is particularly observable in *young men;* of which I might relate several melancholy examples, but a single instance must suffice. A young man, of this city, addicted to habitual and

excessive drinking, received a scratch on one of his feet, which, had he been temperate, would have excited but a slight soreness. With a constitution enfeebled and perverted, however, a gangrenous inflammation speedily ensued, and, to the astonishment of those about him, proved fatal within three days!

I leave this unfinished catalogue of bodily ills, to speak of the darker train of mental disorders, engendered by the demon of intemperance. A fit of drunkenness is a paroxysm of delirium—sometimes infuriated, at others mild and idiotic. A drunken man is, always, either dangerous or ridiculous. His senses deceive him, his passions are tempestuous, his judgment overthrown. His actions are senseless and shameless. If good natured, he is a mawkish and insupportable fool; if ill-tempered, a broilsome and abominable monster; who, in a single hour of uproar and aggression, assails the circle which surrounds him, insults the delicate, tramples upon the weak, grapples with the strong, and at length escapes from the scene of blood and bustle, partly sobered by the retaliating influence of sound blows. It must be a powerful agent that can raise such a tumult; and its daily operation cannot fail to carry disorder into all the faculties and affections of the soul.

An early effect of habitual drinking is IRASCIBILITY OF TEMPER. The patient—for such I must consider him—is easily moved; trifles exasperate him, and when they do not come he seeks them. You know not how to meet his wants or wishes. He discards even his own precedents, and reverses the decisions of each preceding day. Thus he is inconsistent, capricious, discontented and impetuous,—unhappy himself, and the cause of inquietude to his family and friends. This morbid irritability is the soil from which his passions shoot up with the energy of the water hemlock and other rank weeds that overrun our vallies. Anger, hatred and jealousy, not measured by the occasions which excite them, contribute to render him contentious and revengeful; or, if the native bent of his disposition was strongly to good nature, he becomes cowardly, whimsical and silly; and inflicts follies on himself and all who come within his reach. Meanwhile his moral principles suffer impairment —his sense of propriety is vitiated—conscience is dethroned—

and even respect for public opinion is suspended or forgotten. Thus the whole range of moral sentiments is laid in ruins. But the desolation is not limited to his heart—it extends equally to his head. At an early period his senses begin to expeperience injury, and at length his powers of perception are perverted, his observations are made inaccurately, his estimate of the truth becomes erroneous, his memory decays, and his judgment is impaired. In the progress of his intellectual overthrow, his conceptions become disordered, and his imagination excited to an unnatural degree. Strange images arise in his mind, and are believed to be occasioned by external objects, when, in fact, he is almost insensible to all that surrounds him. He occupies himself solely with the creations of his own distempered fancy, which, by this time, afford him abundant employment, for he is now actually mad. At one time he converses with friends who are absent—at another receives mandates from Above; or is enraptured with the sight of imaginary groups of celestial visitants, moving through the air; but in the midst of his bright enchantment, sudden darkness surrounds him, and Satan, with a train of frightful goblins, passes dimly but fearfully before his distempered sight. Terror now arouses him to flight; and, if not confined, he courageously encounters real dangers, in attempting to escape from those which are imaginary. But his flight, of course, avails him nothing; for the frightful images cling to him like the poisoned shirt of Hercules. Exhausted, trembling, and delirious, he is at last taken into custody, and compelled to swallow drugs till his illusions are dispelled. He now returns to reason enfeebled in mind and body—mortified at his own recollections—sunk in the confidence of society, and full of reform. But his passion for drink returns with his strength; and he acts over and over the same ridiculous and melancholy part, till a sudden or violent death, relieves his family from the heaviest burden that fate could lay upon them.

Sec. vi.—Of the Desolating Effects of Intemperance on the Peace and Interests of Society.

Daily observation shows, that in proportion as men become drunkards, they cease to be useful to themselves, to their fa-

milies, or to society. All, therefore, who fall into habits of intoxication, must be lost to the community if they do not reform. Did the evil stop here it might be borne; it would then be no worse, than if so many individuals had prematurely died—whose places might be filled up by others. But the ills which the drunkard inflicts on himself, and those associated with him, are far from being merely negative. His intemperance often continues for years, during which the injury to his fortune and family, and the inconvenience to society at large, are oftentimes incredible.

When a common labourer becomes a drunkard, his family is soon reduced to the utmost need. The more he drinks the less he works, and the greater are his expenditures. He soon begins to contract debts, and falls into arrears at every tavern, grocery, and still-house in his neighborhood. Meanwhile, he ceases to contribute any thing to the support of his family, and at length becomes entirely dependent on their industry. But all the exertions of his wife and children are often inadequate to the maintenance even of themselves; and the deficiency is made up by purchases on credit. Pay-day too soon arrives, and brings with it the officers of justice, who carry off and sell their scanty stock of household goods. Frost and famine, then, invade the cabin, or the single rented room, where many of the comforts of a quiet existence once abounded, and the charity of the neighborhood is called forth; but this, in time, becomes exhausted, and the entire family is thrown upon the overseers of the poor, to be supported from the public treasury, at the expense of the industrious and temperate.

If the drunkard be a mechanic, he is either indulgent or tyrannical to his apprentices, whom he makes wayward by his government, and corrupts by his example. He forgets his promises, slights his work, disappoints his customers; apologises with falsehood, perhaps recovers their confidence, but subjects them to new disappointments, till, in disgust, they abandon his shop, and he goes to jail.

If a farmer, he becomes a common pest, frequenting all public meetings, which he often disturbs, and inflicting visitations

on private families, for the sole purpose of obtaining his favorite beverage. Meantime his farm is neglected and overgrown; his grounds are badly ploughed, and his crops neither planted nor gathered in due season. His fences fall down, and his fields are overrun with domestic animals, who destroy in summer, the provender on which they should subsist in winter. His orchards go unpruned, and degenerate like himself. He wastes his choicest timber, and neglects to plant for those who are to succeed him. His sheds and barracks decay; his slender stock of fodder is rotted by the weather; and his lean and shivering cattle stand exposed to the storm. A neighboring still-house is his market place; and to this are his sons from time to time despatched, to barter a portion of his scanty stores, for that which is to undermine his health, and entail upon them the disgrace of his name, instead of the estate of their ancestors. Well might such a family exclaim with the inspired prophet—

"Our inheritance is turned to strangers, our houses to aliens."
"We are orphans and fatherless, our mothers are as widows."

If a merchant, a want of system marks all his affairs. His clerks are undisciplined, his customers treated uncivilly, and his accompts inaccurately or negligently kept. He sells without profit that which should have been kept for a better demand, and purchases that which will never sell. He neglects his business in its current operations, and at a moment when his credit would otherwise suffer, throws himself upon the sympathy of his friends for that, which he most probably will never repay. Unsatisfied with the regular profits of his badly conducted business, he engages, when excited by drink, in wild speculations, draws the credulous into dangerous responsibilities, and, finally, beggars his own family by reciprocating the favor.

If a physician, he reads no more; and soon loses much of what he had once learned. He forgets his professional engagements, and disappoints his patients,—to their great irritation, if not actual injury. Instead of acknowledging the truth, he is tempted to offer unfounded excuses, and thus contracts habits of falsehood. But all this is a trifle compared with other

delinquencies. He does not recollect from one visit to another, the symptoms and treatment of his patients; and, therefore, can prosecute no systematic or rational method of cure. He observes clumsily, scrutinizes no deeper than the surface, forms hasty conclusions, and prescribes at random. Like a blind Cyclops, he inflicts heavy blows, but knows not whether they fall on the disease or the patient. He writes his prescriptions, however, "*secundum artem*," if not *secundum scientiam;* and, leaving the event with Nature and Providence, seeks for his conscience the quieting influence of another glass.

If a member of the Bar, he is seldom in his office, which he transfers, incessantly, from one part of the city to another, as if in quest of that business which he could only attract and secure, by remaining where he should be found. His places of habitual resort are the coffee house and billiard room; where he wastes the time and intellectual energy which should be appropriated to the service of his clients; thus he is often unprepared for trial; and, they, non-suited or badly defended, must either sustain injury, or seek other counsel. He sometimes even visits the forum drunk; misconceives the points under investigation; provokes the sneers of his brethren; insults the Court; and beneath its indignant rebuke, sits down, or departs, in disgrace, if not in silence.

Is he a statesman? the halls of legislation are defiled—A judge? the bench is polluted—A minister of the gospel? the sanctuary is profaned!

Thus we might travel through all the occupations of society, and not find one on which this vice does not exert a withering influence. But it is around the fireside, withdrawn from the rude world, *at home*—the green house of society—amid the blended sweets of family affection, where love, and peace, and joy, should forever abide, that intemperance displays its gloomiest desolations.

When a son, in early life, contracts habits of intemperance, his prospects are utterly destroyed. Whether he was designed for the farm, for a trade, or for one of the learned professions, the proud hopes which had supported his father and mother

through years of anxiety and toil, give way to disappointment and deep foreboding. In the anguish of their souls, although they watch over him affectionately, they almost wish he was no more; but he generally lives to break the hearts which once beat joyfully in the contemplation of his pure and simple manners, his budding intellect, and youthful aspirations. Mournful, indeed, is the fate of those parents, who are doomed to see an only son, the natural inheritor of their name and fortune, desert the narrow path of temperance and virtue, for the broad and beaten track, by which the drunkard descends to infamy and ruin.

But the drunkenness of a son is a small matter compared with that of a husband and father; for, of all on whom the dreadful effects of this vice can fall, none are so exposed as a wife and children:—the wife especially, for whose situation, when the habit is confirmed, there is, in general, no remedy. She is the *great* sufferer; and has just claims on the sympathy of every friend. Being the first to detect the intemperance of her husband, inquietude seizes upon *her* mind, while their friends are generally ignorant and unsuspicious. In a mingled feeling of love and pride, she conceals her painful discovery, even at the expense of candour and her own approbation. She hopes to reform him, and, therefore, hides his disgrace; but all her efforts, even when skilfully directed, are too often unavailing. He readily joins her in condemning intemperance; but, in his slight indulgencies, can discover nothing that need alarm her. He can restrain his appetite for drink, and will do so, when it is necessary; but must himself be the judge of of that necessity; and, in general, never makes a decision. Meanwhile his propensity increases by indulgence; and at every successive night, it might be said, in the language of a homely but appropriate maxim, that *he is one day older, and two days worse.* The partner of his bosom, now alarmed, essays all her arts to arrest his mad career. She reasons, expostulates, and holds up to his view the scorn of society, and the wrath of heaven: she reminds him of his schemes of early ambition, and exhorts him to renew the race of wealth or glory: she invokes the spirit of their first love, reviews their wedded

life, and presses into her service every tender recollection: she presents to him the future, as he once had pictured it, in colors brighter than those which gild the morning clouds; finally, she surrounds him with his own offspring, and bids him look upon the little ones, whom he is shortly to reduce to penury and disgrace. But, too often, no reformation takes place; and she at length feels that he is lost. She must then prepare for the "days of darkness" which are to come. Long scenes of fatigue, anxiety and varied mortification stretch out before her;—she recoils, heart-stricken, from the contemplation, but her path lies through them, and she cannot change it's course. Yet she yields to her destiny with reluctance; for woman's lot is cast upon her marriage, and she cannot give up her hopes of domestic happiness, without a struggle. At length their children come to occupy her whole heart; and, for their support and education, she dooms herself to incessant toil, and every privation. Were she alone, her efforts might be successful; but who does not know, that a drunken father is far worse than none? His whole conduct encourages licentiousness, waste, disobedience and disorder among his children and servants, and thus augments, ten-fold, the cares and difficulties of the mother. Thus, the last bright expectation of former days is blasted, and her spirit is crushed anew; for she now foresees the probable ruin of her children, as well as her husband. They, in fact, grow up in ignorance, in spite of her utmost efforts; and while some of them cling to her in pity, others fall into vice, or wander off; and all are far different in character and fortune from what she once had reason to expect. Meantime most of the early friends of the family discontinue their intercourse, and the few who still visit them, but add to her mortification, by witnessing the degraded manners and conversation of her husband. Their little property disappears, piece after piece; and debts are contracted, until both friendship and charity become exhausted. Thus years of bitterness roll away; and she is finally disenthralled by the welcome, though perhaps violent, death of him, for whose happiness she would once have yielded up her own life.

This long expected event spreads a solemn gratification through society; and the members of his own family can scarcely conceal from themselves, and from each other, how much they are relieved. His old friends reappear in the funeral procession; but it is to contrast, in under tones, his early with his latter days,—not to bewail his death. The rites of a decent burial being performed, his grave is, generally, ever afterwards neglected by all his acquaintances. Should the pride of family erect over it a monument, inscribed with a catalogue of the virtues which he had long ceased to practice, the misrepresentation serves but to preserve the memory of his failings; and those who reared it, are seldom led to its perusal. They even avoid the spot; and no wife and children are seen blending their tears with the first dews of evening upon its tender grass; but thorns and thistles are suffered to spring up with an energy emblematical of his vices, and the serpent makes its home beneath their tangled branches.

Sec. vii.—Of the means of Curing and Preventing Intemperance.

In all stages of his career, if the drunkard refrain from drinking he of course becomes a sober man; and should no permanent disease have been excited in any organ, he may resume his occupations, and, perhaps, return to the place he had filled in society. But, unfortunately, the habit being once established, he will not, I might almost say cannot, refrain. He repents it is true, but drowns the anguish of his remorse in a fresh libation. His morbid appetite, and the artificial demands of his constitution, are too importunate to be resisted. The flesh triumphs over the spirit; and, as the charmed bird advances, a terrified and trembling victim into the serpent's mouth, so he returns, with horror, to the poison which he knows must at length destroy him. Even in this stage, however, he is, occasionally, cured; either by some alarming event, which carries into his system, both moral and physical, a deep revolution—or, by the associated action of a nauseating medicine, which disgusts him with intoxicating mixtures. But the number thus emancipated is extremely small; and it may admit of doubt whether the successful

application of a medicinal agent to the cure of drunkenness would not, on the whole, do more harm than good. Such a medicine, it it is true, might save many families from the destruction, which uncured intemperance, in the father, must eventually bring upon them; but there is some reason to apprehend, that *a belief in the existence of such a cure* would tend to diminish the fear of indulgence, in those who are beginning to feel the propensity. Civilians regard the certainty of punishments, as more efficacious than their severity; and, if we open to him, who is commencing a course of drunkenness, the prospect of being cured, at some future time, by the use of medicine, it can scarcely be denied, that a strong inducement for refraining is abolished.

The true and greatest object is prevention. To this every individual should turn his attention in reference to himself—to this should every wife and sister direct her efforts—to this should all benevolent men dedicate their utmost abilities—and on this should the wisdom and power of our legislative assemblies be exercised. I propose to enumerate some of the modes in which a preventive influence may be exerted; but let us first enquire, for a moment, into the moral nature of intemperance.

It has been ranked with vices and crimes, when it should, rather, have been classed with the bodily disorders which, carrying disturbance into the soul, ultimately lead to their perpetration. This estimate of its character is not at variance with that assigned to it in our Holy Scriptures. The criminality of the drunkard does not consist so much in the outrages which he commits when intoxicated, as in not having governed his appetites, and resisted the establishment in his system of a morbid action, which may destroy the foundations of reason, and poison the fountains of moral feeling. While these remain unpolluted he is a free agent; and is criminal if he do not oppose considerations of duty to the cravings of appetite. He should consider the danger of exposing himself to temptation, and the immorality of an indulgence, which all experience demonstrates, must, finally, overwhelm both soul and body. Yet when he has yielded to the tyranny of a morbid appetite, and

become a sot, he should not be treated with cruelty; for that would neither cure him, nor deter others. On these principles should society rest his case; for, upon them, only, can we construct a rational system of prevention.

The principal elements of this system may be distributed into several groups.

I. ABOLITIONS.

The daily use, in families, of ardent spirits, whether under the name of bitters, slings, toddies, juleps, punch, or grog, should be discontinued.

The absurd custom of offering them to visitors should be renounced.

The license for drinking establishments, under the denomination of groceries, coffee-houses, and confectionaries, should be granted on the principle of suppressing them, instead of deriving from them, as at present, a revenue that shall diminish our taxes.

The use of whiskey by the engineers, artists and operatives in work-shops and manufactories, should be discouraged.

Farmers of wealth and moral influence should agree with each other, not to distribute that liquor among those whom they employ as labourers in harvest time, and on other special occasions, which are most erroneously supposed to require it.

Finally, the practice of drinking ardent spirits at all sorts of public meetings—a practice which interferes as much with the objects for which they are held, as it corrupts the habits of the people at large—should be denounced and abolished.

II. SUBSTITUTIONS.

Very great advantage to the interests of temperance would result from substituting several different beverages, of a stimulating quality, for ardent spirits. The inhabitants of wine countries are generally temperate; and the same remark will apply to those which abound in cider. When cider and spruce beer were the national beverages of New England, her farmers and mechanics were patterns of sobriety. Of the change that has followed, upon the profuse distillation of apple-brandy and molasses rum, I shall leave it with her own moralists to speak. Strong beer and porter are preferable to ardent spi-

rits; but their daily use leads to corpulence, apoplexy and sottishness. Table and family beer and porteree are far healthier, and never intoxicate. They cannot stimulate a stomach seared with the products of the distillery; but to any other they impart as much excitement as comports with sound health. Even lemonade and sherbet are beverages which, on many public occasions, might be substituted for strong drink. In Paris the men of letters, assembled in large evening parties, often refresh themselves with lemonade only, while for hours they sustain the highest grade of intellectual excitation. Of cordials I cannot speak in terms of commendation. They abound in alcohol, rather mixed than chemically combined with other ingredients; and, while the latter entice us into excessive drinking, the former produces almost every mischief that can flow from ardent spirits. But of tea and coffee, as substitutes for alcoholic compounds of every kind, an opinion too favourable could scarcely be expressed. I am not unaware of the injuries which these infusions occasion; especially in females and young men of studious and sedentary habits; but drunkenness is not of the number, nor are all the evils which they produce to be compared with that single vice. That their daily use, particularly the use of tea, contributes to the prevention of intemperance, there cannot be a doubt. I have not often seen a tea drinker, become a drunkard; and quite as seldom known a man remain temperate, who preferred an evening draught of spirit and water, to that delightful beverage. Of every known stimulus it seems, indeed, to raise in our faculties and feelings the pleasantest animation; and hence its use by so many millions, inhabiting continents the most remote from one another, may be explained if it cannot be fully approved.

III. LEGAL DISABILITIES AND PENALTIES.

Our statute laws should be so framed, that drunkenness would bring on those who practice it, several disabilities, the anticipation of which might contribute to deter thosewho are about to yield to temptation.

1. The drunkard should not be eligible to any office in our judiciary.

2. When called to serve as a juryman, either party should have the right of challenge for his failing.

3. When subpœnaed as a witness, the party against whom he is to testify, should be permitted to offer proofs to the court and jury, of his habitual intemperance; that they might make the necessary allowances for the mistakes into which he is more liable to fall than sober men.

In all cases the law would proceed on the fact, that habitual intoxication disorders our external senses, and impairs our mental faculties; and that the observations and conclusions of the drunkard, are at no time to be received without distrust of their accuracy. As a witness he might still remain *competent*, and, as it respects his *disposition* to know and state the truth, even *credible;* but his *capability* should be questioned, for it is impaired.

In permitting the habitual drunkard to give testimony, without its being shown to the court and jury that the is such, the law seems to me to be deficient in its usual perspicacity. The man who is frequently intoxicated, ceases at length to be of sound mind; and should be estimated accordingly. When from this cause he falls into manifest derangement, (*Delirium tremens,*) he is no longer competent as a witness; but this state is only the consummation of an intellectual perversion which commenced long before, and, insidiously, deteriorated his powers of perception.

4. The property of the drunkard should be placed in the hands of trustees. If this were done at an early period, it could scarcely fail to contribute to his reformation; and when it did not succeed, both he and his family might, eventually, be kept from becoming public charges. In some of the states, a law of this kind exists; and it should be adopted by the whole.

IV. SOCIAL DISABILITIES AND RESTRICTIONS.

If these were properly and generally imposed, they would contribute signally to the prevention of drunkenness.

No professional man or mechanic should be employed, after he is known to be falling into habits of intemperance.

Boys should not be placed as students, apprentices or clerks, with intemperate men. This restriction is called for, not less by a regard to the interest of the boy, than the reformation of the inebriate.

Capitalists and master workmen of every kind, should refuse to employ, as operatives or journeymen, all who are given to drunkenness.

Other restrictions of a similar kind might be mentioned, but these will serve as specimens.

V. DOMESTIC RESTRICTIONS.

Under this head I would embrace the influence of the sex. If judiciously and earnestly exerted, it would be very great; but I am sorry to say, that in general it is not. Women, both married and single, seldom frown upon intemperance, in its early, which are its only curable, stages,—however they may detest its confirmed and loathsome shapes. Every young woman of sense and virtue, instinctively shrinks from the idea of marrying a man of suspected integrity, or of manners, vulgar in comparison to her own; and why should she not take exception to that which is still more portentous? To that which destroys both honor and refinement, and brings in its train such woes, as neither dishonesty nor rudeness can originate? If the parents and daughter were not to trust a suitor, who has been once convicted of drunkenness, they would do more to promote the temperence of young men, than all the moralists and declaimers of the age.

The young wife, however, rests under the heaviest responsibility. It is she who has the deepest stake in her husband's habits, and may exercise over them the greatest power. She ought, therefore, to study this subject thoroughly; and take her stand, at an early period, in a spirit of mild but dauntless resolution. Her motto should be that of the Roman moralist: *Resist the beginnings.* The *custom* may be broken up, but the *habit* is indestructible. Whatever is done, should be done quickly; but it must be done skilfully. It is necessary that she should retain her husband's affection, while she opposes his propensity to intemperance,—a delicate, but in many cases not an impossible task. In proportion as she discovers an

increasing necessity for her interference, she should display a deeper affection,—as her object is not to punish, but to preserve. She must render home more and more attractive to him, and seek to establish with him a closer and dearer companionship. She must not withdraw from her female friends; but, by every practicable means, unite her husband with herself, in the enjoyment of their society; for no man would desire or dare to become a drunkard in the midst of virtuous women. But while she does all this and much more, she ought not, even for a single moment, to forget the object in view; nor so speak or act, as to make her husband suppose her indifferent to his failing. She must never, by word or deed, sanction the daily use of morning drams; nor look, as I am sorry to say, she too often does, with levity on his first frolicksome indulgencies in company. Under every aspect it can assume; by whatever name it may be called; in spite of the most plausible pretexts; and in the face of the most honorable examples to bear him out, she must frown upon every excess. When he comes home, in season, but inebriated, she should receive him with sadness and reserve; and let him, if he choose, revenge himself by returning to the scene of his dissipation: He will at last make his reappearance sober. At other times, when he remains away, she should not retire to rest; but, in a feeling of desperation, watch out the longest nights; that he may be touched by the anguish of her spirit, and dismayed by the firmness with which she has resolved to make no compromise with his failing.

If no amendment take place under this simple method, the case is obstinate; and she should prepare for every thing, *but early and silent acquiescence.* It will be due time for this, when all the means within her reach have been employed without avail. Before that state arrives, her activity should be ceaseless; and her efforts directed with all the sagacity she can summons into her service. She must not be discouraged at the inefficiency of one attempt; but pass to another, trying all things, and holding fast to that which is good. Thus rising in her energies with the growth of his vice, and adapting her means as far as possible, to his peculiarities of temper and

disposition, she must, at different times, and under various circumstances, entreat him with exhortations,—confound him with arguments,—alarm him with consequences,—reproach him with injuries,—overwhelm him with the tears of embittered love! Let her not be alarmed at this advice. She has nothing to fear, and something to hope, from a determined course. Her husband, knowing her to be right, and being conscious that he is wrong, will be compelled to respect her in the midst of his irritation; and, while he might turn with contempt from the sighs of weakness, may cower beneath the remonstrances of indignant love. There is power in the stern virtue of a woman's heart; and no husband, not brutal by nature, or from vice, can set at naught her firm resolves in the cause of duty. When pressed to extremity, her reaction has stricken terror into him, who, till then, never felt alarm. Endowed by her Creator with this peculiar power, the sustaining principle of her sex's dignity, it is her duty to exert it. What! is she a bondwoman, or a beast of burden? Is she to cater for his appetites, and waste her days, in servitude to his unhallowed passions? Was it for this she departed from the mansion of her ancestors, and relinquished the endearing protection of her father and brothers? Was it for this she stood before the altar and exchanged vows of fidelity and love?

Is she not rather in many respects a coequal, with rights and dignities not dependent on the will of her husband? If her sphere of action be more limited than his, is she not a free agent within her proper circle, and should she not fearlessly maintain her interests? God has given her a desire for happiness, and the liberty to pursue it according to certain laws; and should her husband's vices obtrude upon her narrow and rugged way, she must effectually dispel them, or relinquish every hope save that of Heaven.

But great as may be the power of woman, when timely and courageously exerted, we must not rely on it alone, to repress or controul intemperance. A variety of causes tend to paralize her efforts, such as ignorance; native timidity; an indifference to remote consequences; the habit of unqualified

submission; and, above all, the wide spreading and fatal weakness, of allowing her husband, for a time, to atone for his excesses by redoubled attentions to herself. It is our duty, as men, to look to ourselves and to each other. The practices which, reciprocally, corrupt our lives should be abolished; and in their stead we should adopt those which refine our manners and purify our hearts. We should follow, in reference to vice, the economical maxims, by which we guard against losses by fire and flood. We form mutual insurance companies for our property, why not for the virtues by which that property is to be earned and held? An estate is soon lost, if not guarded by temperance and its associates, industry and economy; and when lost by drunkenness it is gone forever. It is melancholy to witness the folly of poor inconsistent man. To look at his long policies of insurance against the torch of the incendiary, when his property at that very hour belongs of right to other men, who have administered to his intemperance, or profited by the stupidity which it generates. Let us, then, awaken from the sleep of indifference, and open our eyes to the nature and effects of that vice, which, above every other, brings distress and ruin upon the land. There are several causes which contribute either to diminish our aversion to it, or to quiet our consciences under the neglect of the proper means for its suppression.

1. We are accustomed to witness it from infancy, and are, therefore, the less offended by its obscenities, while we grow up with a feint impression, that it is a necessary—or at least an inevitable—evil in society.

2. It connects itself with the private lives and domestic habits of the individuals who practise it; and is thus supposed by many, not to be an admissible object of public censure. But this is an error which ought to be exploded. If the drunkard, sooner or later, require the interposition or the guardianship of society—and this he may do—society has the *right*, if it can devise the means, to *prevent* his drunkenness. He becomes delirious and requires confinement; he abuses or assaults his family, who must seek the protection of friends or of the laws; he wastes his estates, and throws both

himself and children on the bounty of the commonwealth:—these are but a part of the evils which he inflicts upon the state, and still they are enough to make him a fit subject of both social and political legislation.

3. No vice in general makes a more clandestine progress. In a few cases it is clamorous, but then comparatively harmless—its deadliest forms are silent, and give little alarm. Its march is unobserved; for it comes not with drums and trumpets, but steals upon society like an armed man under cover of the night, and frequently is not discovered till resistance is of no avail.

4. Many worthy men are deterred from interfering, by their want of moral courage. They fear the sarcasms of the drunkard and his dissolute associates. They alarm themselves and each other, with possible consequences; and while they would delight to witness the reform even of a single inebriate, they are unwilling to risk a solitary effort to accomplish it. They are frightened by the magnitude of the duty into its total dereliction. It would, perhaps, be wrong to press such persons into the army of reform, for Nature has given them a commission of neutrality, and her power should be respected.

5. But the great cause of our remissness lies in the excessive energy of the selfish principle. Its power is sometimes almost magical; for, like an inverted telescope, it presents to us the evils of all other persons in reduced dimensions, and enables us to bear them with the most admirable fortitude. The man of inordinate selfishness is never able to find in the community a single evil, which *duty* calls upon him to correct. The sufferings of other people cannot pierce the coat of mail in which his heart is incased. His partnership with society is not one of profit and loss; but of clear gain, if he can make it so. When dividends are to be declared, he is a large stockholder; but if disasters are to be met, or deficiencies supplied, he is no longer a member of the firm. He looks upon society as something created for his use; and delights in its prosperity, whenever that prosperity will contribute to

his benefit; while he deplores the miseries of others, as far as they may detract from his own interests or enjoyments, and no further. By the most touching events connected with others, his heart is not warmed to the core; and the tender charities which begin to sprout up, soon perish by the frost within. Thus the utmost power of the sun, thaws but the surface of the shores around Hudson's Bay; and the young plants which the famishing adventurer would cultivate, are speedily chilled by the ice beneath.

It is edifiying to observe his conduct in particular situations. Thus at the dead hour of night, when the city is alarmed by the cry of fire, and every noble spirit, whether rich or poor, instinctively hurries to the spot; when the sounds of dismay and lamentation reach the deep recesses of every generous heart, and even the tear of pity starts in many an eye, the selfish man repairs to his chamber window, to observe the course of the wind! If the lurid flames are driven towards his own estates, they melt his heart into the deepest sympathy. He then becomes sorely afflicted for the loss of his suffering neighbors, and brings to their relief his mightiest efforts; but let him feel secure from the evil, and he gazes at the conflagration like a second Nero.

From such men, the philanthropist need expect no aid in his schemes of charity; but this should not discourage him; for a daring minority in the cause of virtue, will make itself felt and feared. Ardour and union must produce important results, in spite of every opposition. The true corrective of intemperance is public sentiment; which should every where be embodied and directed with skill and intrepid perseverance.

Let the habitual use of ardent spirit be discountenanced, both by example and precept: let drunkenness in all its grades and varieties be declared infamous: make it an offence against the laws of society, as it is against the laws of Nature and of God: spurn it with contempt: display the list of its murders: proclaim its guilt to the world; and pronounce upon it, a sentence of perpetual banishment.

Thus would the "pestilence that walketh in darknesss" be stayed in its onward course,—the imprudent warned in time of the danger which surrounds them,—and a vast multitude preserved, from the ravages of its destroying power.

APPENDIX.

ALCOHOL.

Alcohol, according to Saussare, is composed of Carbon, Oxygen and Hydroden, in the following proportions:—C. 51.98. O. 34.32. H. 13.70—100. Its specific gravity is 791 water being 1000; but it can seldom be obtained so pure, and its more common s. g. is 820. It was once supposed that alcohol was formed in the process of *distillation;* but Mr. Brande has demonstrated that it is exclusively the product of *fermentation;* and, therefore, that it exists in every sacharine or sugary solution, which has undergone fermentation. Sugar is indeed the indispensable material out of which alcohol is formed; and it is melancholy to reflect on the misapplication of art, in converting one of the most pleasant, harmless and nourishing substances, in nature, into a bewitching poison.

The following table, compiled from Brande's Manual of chemistry, shews the proportion in which alcohol exists in several different beverages:—

	DISTILLED SPIRITS.	
Scotch Whiskey -	54.32 parts by measure in	100
Irish do. - -	53.90	do.
Rum - - - -	53.63	do.
Brandy - -	53.39	do.
Gin - - - -	51.60	do.
	WINES.	
Port - - - -	22.96	do.
Madeira - - -	22.27	do.
Currant - - -	20.55	do.
Teneriffe - - -	19.79	do.

Sherry - - -	19.17	do.
Lisbon and Malaga, each	18.94	do.
Claret - - -	15.10	do.
Champaign - -	13.80	do.
Gooseberry - -	11.84	do.
Elder - - - -	8.79	do.
MALT LIQUORS.		
Ale - - - -	6.87	do.
Brown Stout - -	6.80	do.
London Porter - -	4.20	do.
London Small Beer -	1.28	do.
CIDER.		
Highest average - -	9.87	do.
Lowest average - -	5.21	do.

From this table it appears that in Brandy, Rum and Whiskey there is, by measure, more alcohol than water, and that Madeira Wine and Port Wine contain nearly half, strong Cider about a fifth, and Ale an eighth as much as they. Thus a botttle of Madeira has in it nearly a pint of proof spirits; a quart of Strong Cider more than six ounces; and a bottle of Ale about four ounces.

The chemists were surprised by the results of Mr. Brande's experiments. Nobody, till then, was aware, that the various fermented liquors contain so large a quantity of alcohol. Their intoxicating effects are certainly not in proportion. This arises from their other ingredients; which give to all of them a nourishing quality, and, to each, effects more or less peculiar. Thus, says Dr. Paris—

"Alcohol, although diluted to the degree of proof spirit, is still too strong for internal exhibition; indeed, where its use is indicated, it is more generally given in the form of wine, malt liquors, or ardent spirits, which must be regarded only as diluted alcohol, although each has a peculiarity of operation, owing to the modifying influence of the other elements of the liquid; thus *Brandy* is said to be simply cordial and stomachic; *Rum* heating and sudorific; *Gin* and *Whiskey*, diuretic; and *Arrack*, styptic, heating and narcotic; it seems also probable that a modified effect is produced by the addition of various other substances, such as sugar and acids, which latter bodies, besides their anti narcotic powers, appear to act by

favouring a more perfect combination and mutual penetration of the particles of spirit and water. The effects also which are produced by the habitual use of fermented liquors, differ essentially, according to the kind that is drank; thus Ale and Porter, in consequence of the nutritive matter, and perhaps the invigorating bitter with which they are charged, and the comparatively small proportion of alcohol which they contain, dispose to a plethora, which is not unfrequently terminated by appoplexy; Spirits on the other hand, induce severe dyspepsia, obstructed and hardened liver, dropsy, and more than half of all our chronical diseases; and Dr. Darwin moreover remarks that when they arise from this cause, they are liable to become hereditary, even to the third generation, gradually increasing, if the cause be continued, till the family becomes extinct: with regard to wine, Rush has truly observed that its effects, like those of tyranny in a well formed government, are first felt in the extremities, while spirits, like a bold invader, seize at once upon the vitals of the constitution; the different kinds of wine, however, produce very different and even opposite effects." Pharmacologia, pp. 377—8

This view of the effects of different kinds of alcoholic beverages, suggests to us the propriety of nice discrimination, when we are about to choose one of them as a medicine. On the subject of their relative differences, both physicians and the people, are less informed than they ought to be, and mistakes are, therefore, by no means uncommon.

In their praiseworthy zeal for the suppression of intemperance, many persons have proposed the enactment of a law, prohibiting the distillation of alcohol. But such a law would not be compatible with the genius of a free government; and could never be successfully enforced. Alcohol, moreover, is an agent of extensive and varied utility, and could not, therefore, be dispensed with. In analytical chemistry, it has contributed much to a correct knowledge of the composition of bodies; especially those belonging to the vegetable kingdom. In the arts it performs a service equally important, being the only solvent for a great number of substances which, in civilized life. are highly useful, if dissolved in alcohol; but otherwise useless. Lastly, in medicine its uses are equally important; as it extracts the active principles from a number of native vegetable compounds, and imparts to them increased energy as tonics and stimulants.

If, however, it were practicable and proper, to suppress the distillation of alcohol, but little would perhaps be gained by so doing. An increased manufacture and consumption of fermented liquors would no doubt ensue; or opium might be introduced, as a substitute, the effects of which would not be less dreadful than those of ardent spirits. Distillation, therefore, must be tolerated, but it should be taxed. This would diminish the quantity of its products; and raise their price to the consumer, which would infallibly diminish their consumption. It is said, however, that the people will not submit to an excise. If this be the fact, it argues but little in favor of their temperance, or their regard for the interests of morality. The people may not submit to an excise unaccompanied by an increased duty on foreign spirits and wines; but with such a duty,—which would keep the rich and poor in the same *relative* condition, by augmenting, equally, to all the expense of drinking,—an excise would probably be borne, and could not fail to produce salutary effects.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

ART. II.—*Formulary for the preparation and employment of many new Medicines; such as the Nux Vomica, the Salts of Morphine, the Prussic Acid, the Strychnine, the Veratrine, the Alkalis of the Cinchona, the Emetine, the Iodine of Mercury, the Cyadine of Pottassium, the Croton Oil, the Salts of Gold, the Salts of Platina, &c. &c. By* F. MAJENDIE, *Member of the French Institute, Titular of the Royal Academy of Medicine and of the Philomatic Society, Physician of the Central Office of Admission to the Hospital and Almshouses of Paris, &c. &c. Translated from the fifth edition, revised, and augmented, by* JOHN BAXTER, M. D. *Member of the Medical Societies of Philadelphia and New-York. With notes and abbreviations. New-York,* 1827. *pp.* 138.

[Concluded.]

VERATRIA. The next, of the new principles on which our author treats, takes its name from the *Veratrum Commune*, or White Hellabore, and the *V. Sabadilla* or Cevadilla, in both of which it exists. It is found, also, in the root of the *Colchicum Autumnale*. Like the others it possesses alkaline properties, and dissolves in all the vegetable acids, with which it forms neutral salts, that are uncrystallizable. Veratria is nearly insoluble in water, but dissolves readily in alcohol and ether. Its operation and effects on the living body may be collected from the following extract:

"*Action of veratrine upon animals.* A very small quantity of acetate of veratrine, injected into the nostrils of a dog provokes immediately a violent sneezing, which lasts sometimes near a half an hour.

One or two grains thrown in the throat determine immediately a very abundant salivation, which lasts some time.

If the same quantity of this substance be injected into any point of the intestinal canal, and the abdomen opened to observe its effects, the intestine will be seen to be much hardened, then to relax, then to contract again, and thus to continue for a certain time. The part of the mucous membrane which is found in contact with the veratrine is inflamed; the irritation spreads and determines vomitings and al-

vine evacuations. Given in a larger dose, it produces a great acceleration of the circulation and of respiration, soon followed by tetanus and death.

The effects are still more rapid, if we inject under the pleura or into the tunica vaginalis one or two grains of this substance: in less than ten minutes we see death take place after the tetanic phenomena.

The same quantity injected into the jugular vein produces, also, but in a few seconds, tetanus and death. Autopsy of the body shows that, even in this case, the veratrine has exerted an action upon the intestinal canal, the mucous membrane of which is found highly injected. The lungs, also, show signs of inflammation and engorgement. After what has been given above, we see, that this substance, thrown in small quantities into the intestinal canal, produces only local effects, or at least effects confined to the intestinal canal, and that it is necessary that it should be administered in a large dose, or thrown upon parts where absorption is very active, such as the pleura and tunica vaginalis, to produce general effects, which we have just shown are so terrible. M. Andral (son) has published a note on the action of veratrine, in the first number of my Journal de Physiologie.

Action of veratrine on the well and on the sick. The effects of veratrine in large doses have not been observed upon man: without doubt they would be the same as those observed upon animals.

The taste of veratrine is very acrid, but without any mixture of bitterness; it excites, however small the quantity may be that is taken into the mouth, a very abundant salivation.

Although the veratrine is absolutely inodorous, there is an inconvenience, when it is in a pulvulurent state, from smelling it too near. The small quantity carried into the nostrils by the air is sufficient often to promote violent sneezing, which may become dangerous.

Thrown in the dose of a quarter of a grain into the intestinal canal, it determines promptly very abundant alvine evacuations: in a little larger dose, it provokes vomitings more or less violent.

I have given it lately in the dose of 2 grains in twenty-four hours, without obtaining too abundant evacuations. The patient was an old man who had been taken with appoplexy some time before. It is a new proof that the state of the nervous system influences medicines very much in the manner of acting.

After having tasted with care the potion which contained these two grains of veratrine, I experienced for several hours an insupportable acridness in the mouth and pharynx. The impression had not entirely gone the next day. The patient experienced nothing of the kind.

Cases in which the veratrine may be employed. This substance, producing the same effects as the plants from which it is drawn, may be substituted for them, and with much advantage, since we know

in this case what we are ignorant of in the other, the quantity of active substance which we make use of.

The veratrine answers, moreover, to excite promptly, in cases where it is necessary, full alvine evacutions: given with this intention, it has succeeded very well in certain old men, in whom there existed an enormous accumulation of fœcal matter in the large intestine. In the pharmaceutic preparations of which the colchicum and the hellebore form the báse, the veratrine may replace those substances; they will become then therapeutic agents more powerful, more convenient, and more sure. The pills of Bacher, l'eau medicinale d'Husson, the simple tincture of colchicum, will cease to be remedies unbelieved in and too often complained of by practitioners.

The following are some formulas which we have written out, to replace those of which we have just spoken:

Pills of veratrine. ℞ Veratrine, 1-2 grain,
Gum arabic and syrup of gum, a sufficient quantity to make 6 pills of 1 grain each. One of these pills may first be given, and if purgative effects are not obtained, 3 may be given in a day; they will replace with advantage the pills of Bacher.

Tincture of veratrine. ℞ Veratrine, 4 grains,
Alcohol, 1 ounce.
This tincture is administered in the dose of 10, 15, 20, and 25 drops in a cup of good drink. It may be given internally with advantage, instead of the tincture of colchicum, in dropsy, in leucophlegmasia and anasarca; and, to the exterior, by friction, in those same diseases and in gout.

Solution of veratrine. ℞ Sulphate of veratrine, 1 grain,
Distilled water, 1 ounce.
This solution may replace the l'eau medicinale d'Husson.

Ointment of veratrine. ℞ Veratrine, 4 grains,
Axunge, 1 ounce.
This ointment may be employed externally in cases of chronic rheumatism, anasarca, and in gout." pp. 57—58—59—60.

We have not prescribed Veratria or its salts, except as it exists in the vinous tincture of Colchicum. That preparation we have repeatedly employed in bronchial inflammation, and can testify to its efficacy. After bloodletting, it speedily diminishes the frequency and force of the pulse, with an abatement of dyspnœa. It may be given alone, in a concentrated state; but is more efficacious, when added to a dilute solution of tartarized antimony, with laudanum.

Hydrocyanic or Prussic Acid. Of the whole Materia Medica, this is one of the most deleterious and decomposable

substances. To these two characteristics we may ascribe its limited employment by the profession at large; to whom it has been so strongly recommended by several distinguished physicians of France, England, and the United States. Its tendency to decomposition is so great, as to preclude all certainty as to the quantity actually administered; and a knowledge of this, has often deterred both physicians and patients from its use. Those only who live in the vicinity of the laboratory can, indeed, employ it with safety and success. When diluted with distilled water, we have found the difference in strength so great, between a recent solution and one a few days old, as to constitute a serious embarrassment in practice. One of our patients, in fact, came nigh being injured, by taking no more of a solution, just prepared, than she had been accustomed to take of one that had been kept a week or two. It produced instantaneous reduction of muscular energy, to such a degree, that she nearly fell upon the floor. Notwithstanding this most striking effect of the Prussic Acid, we have found it, in moderate portions, to increase the excitement of the nervous system, and raise the spirits of dyspeptic patients.

Of the potent agents which the laboratory has sent forth, in these latter days, not one has given rise to so many volumes of reports, as that under consideration. We do not believe, however, that it has ever cured either Dyspepsia or genuine Phthisis Pulmonalis, the diseases for which it has been most lauded. This is the result of our trials with it, in no inconsiderable number of cases—the medicine being recently and accurately prepared, by the ingenious Dr. Best, late lecturer on Pharmacy in Transylvania University. In both maladies, however, and in many imitative phthisical disorders, we have found it a valuable palliative. Few substances exert so much influence over that morbid sensibility, especially of the animal system, which constitutes so prominent a circumstance in Dyspepsia, and many sympathetic affections of the lungs and muscles of respiration. Some of these cases assume a threatening aspect; and are greatly relieved

or even cured, by the Prussic acid. Beyond this, its powers have not appeared to us to extend.

From its efficacy in subduing unhealthy sensibility and irregular action in the muscular system of animal life, we have been induced, in obstetrical practice, to employ it for *After-pains*, but could not discover that it exerted an influence on the contractions of the uterus. Its effects on the muscles of organic life, seem, indeed, to be inconsiderable.

The following quotation contains a summary of what our author has been able to collect, relative to the medicinal employment of this powerful agent:

"*Cases in which it should be employed.* The prussic acid, weakened, as we are going to show, is employed with success in all cases where the irritability of the pulmonary organs is morbidly increased: thus it is used advantageously in the treatment of nervous and chronic coughs, in asthma, whooping cough, in the palliative treatment of phthisis. A great number of observations now induce the belief that it can procure a complete cure when the disease is yet in its first degree. In England, it is employed with success against the hectic cough, sympathetic of the affections of another organ, and against dyspepsia. Mr. Elliotson, at the hospital of St. Thomas, in London, and in his particular practice, has employed the medicinal prussic acid; it was prepared according to the process of M. Vanquelin, which we have given above; he has reported more than forty cases of dyspepsia, with or without vomitings, and accompanied with sharp pains in the epigastric region, and of pyrosis, which were cured by the use of the medicinal prussic acid. This same physician cites a case of painters colic, in which Dr. Prout gave the prussic acid and procured instantaneous relief. Mr. Elliotson has also administered the hydrocyanic acid in a great number of affections of the chest; he has almost constantly obtained a cessation of the cough which fatigued the patient. Externally, the medicinal prussic acid, employed in lotions for different diseases of the skin, has not produced in the hands of Mr. Elliotson very marked effects; however, Dr. Thompson assures, that he has used it in lotions, with constant success, to diminish those itchings and burnings so fatiguing in cutaneous diseases, and to have cured several kinds of dartre, especially several persons affected with pimples on the face. (Acne rosacea.) M. Jacob Bouchenel has published an interesting memoir, on the use of the prussic acid in the treatment of chronic pulmonary catarrh, a memoir in which this physician reports four cases of chronic pulmonary catarrh cured by the hydrocyanic acid. The author closes by saying, that this remedy, employed in small dose, has no more inconvenience than a common draught; that the acute

state of catarrh is not proper to use this medicine in, and that the success is more certain when antiphlogistic means are resorted to before employing the hydrocyanic acid. M. Bouchenel has also employed the prussic acid in a case of phthisis; but he attained only to calm momentarily the cough, which leads him to doubt whether the prussic acid has really procured the cure of phthisis. We repeat here, that we have obtained the cure of persons having all the signs of phthisis in the first degree, and even more advanced. It is not a chance assertion on our part.

In Italy, the medicinal hydrocyanic acid is used to calm the too great irritability of the uterus, even in cases of cancer, and to moderate the activity of the heart in almost all sthenic diseases.

Professor Brera speaks very much of the happy effects of prussic acid in pneumonia; he advises it also against rheumatism, and as a vermifuge. It is since the professor has employed the hydrocyanic acid in diseases of the heart, that Dr. Maclead administered it in these same diseases; (Bullet. des Sciences Med., Feb., 1824.) He states that he has calmed by this acid nervous palpitations, those especially which seem to have a derangement of the digestive organs for the cause; he has also used it as a palliative in some cases of aneurism of the heart. He has never carried the dose beyond 28 drops in twenty-four hours, and he has seen in no case serious accidents result from the administration of this remedy.

Dr. Frisch, physician at Nyborg, in Denmark, has calmed intolerable pains, caused by cancer in the breast, and which had resisted all antispasmodics, by washing the surface of the cancerous ulcer with dilute medicinal prussic acid. He has also employed this remedy usefully in several cases of phthisis. He cites a case of cure. Dr. Guerin, of Mamers, has lately employed with success the medicinal prussic acid in two cases of cerebral fever." 64—65—66.

Cyanide of Potassium and Hydrocyanite of Potash.—The perishable constitution of the Hydrocyanic or Prussic Acid, has suggested to the chemists, the value of some other and more permanent compound, of which Cyanogen should be the active ingredient. This has been discovered or invented, by Messrs. Robiquet and Villerme; and consists in the union of Cyanogen with Potassium, constituting a Cyanide of Potassium, which kept dry undergoes no change. Exposed to moisture, or dissolved in water, the Hydrocyanic Acid and Potash are formed, and there results a solution of Hydrocyanite of potash. The effects of these substances, as far as they have been ascertained, are stated by one author in the following paragraphs:

Action of the cyanide of potassium and of the hydrocyanate of potash upon other animals and upon man. Messrs. Robiquet and Villerme have made experiments upon animals in our presence.

The action of the cyanide of potassium was such, that with the tenth of a grain of that salt a linnet perished in one minute; a little less than a grain killed a guinea pig in two or three minutes.

With the hydrocyanate of potash, a small drop not containing more than an hundredth part of a grain of cyanide in solution, made a cock linnet fall dead in about half a minute. A half gros, containing 5 grains of cyanide, killed a large sized dog in 15 minutes.—The symptoms of poisoning were similar to those produced by the hydrocyanic acid. There has been no occasion to study on man the symptoms caused by this substance.

Manner of employing it. The cyanide of potassium is dissolved in eight times its weight of distilled water, it is transformed into hydocyanate of potash. The cyanide mixed with water in this proportion may receive the name of the medicinal hydrocyanate of potash.

We may then, without danger, give this hydrocyanate in the same doses as the medicinal prussic acid, and introduce it into the same preparations as those which are pointed out for prussic acid.—We may, besides, render it entirely independent of the action of the small portion of alkali contained in the cyanide, by adding a few drops of some vegetable acid, or by prescribing it with an acid syrup; from this will result the eminent advantage of putting the prussic acid more uncombined.

If the cyanide of potassium be put into a draught instead of the dydrocyanate of potash, we must commence with a quarter of a grain, and increase gradually to a grain, dose which has already been surpassed by some physicians." pp. 69—70.

Cyanides of Zinc and Iodine. Two other compounds of Cyanogen have been offered to the profession, as substitutes for the Prussic Acid. These are the Cyanides of Zinc and Iodine. Neither of them appears to be as energetic in its action on man, as the preparations of which we have spoken; but their effects remain to be ascertained.

Solania. This is the deleterious principle of the genus of Solanum, or Night-Shade. It was discovered by Defosses, a French apothecary, in the leaves and berries of the S. Nigrum (deadly night-shade) and S. Dulcamara (bitter sweet). The berries of the former contain it in abundance, in union with malic acid. The other species of Solanum have not been examined; but it probably exists in all the *active* members of the

family. The following are its therapeutick properties, as far as they have been ascertained.

"*Action of solanine upon animals.* This substance, introduced in the dose of 2 to 4 grains into the stomach of a dog or cat, excites violent vomiting, soon followed by drowsiness, which lasts several hours.

A young cat was able to support without dying 8 grains of this substance. After violent vomiting, he experienced strong sleepiness, which lasted thirty-six hours.

Action of solanine upon man. If a small quantity of solanine is swallowed, a strong feeling of irritation is perceived in the throat.—Held in the mouth, the solanine gives a nauseous taste, slightly bitter, but which becomes very much so if the substance is dissolved in a little acetic acid.

Of all the salts of solanine, the acetate is the only one whose action has been tried on man. In the dose of a quarter of a grain, it produces nausea, but the tendency to sleep is not observable.

After what we have just said, we see that the solanine, like opium, may produce vomiting and sleep; but its emetic properties appear more developed than that of opium, while its narcotic properties are evidently much less.

Cases in which they may be employed. The solanine has not yet been tried upon the sick, but it may be used in cases where the extract of night shade or that of bitter sweet are indicated." p. 79.

Delphinia. A tincture of the seeds of the garden larkspur Delphinium Consolida et staphisagria, has long been in use among the people, to destroy lice, (Pediculi) an evidence that they possess deleterious powers. In 1819 M. M. Feneuille and Lassaigne discovered in them an alkaline element, on which their effects appear to depend. It has not yet, however, been made the subject of therapeutick investigation. In the United States there are several native species of Delphinium, which merit the attention of our pharmacopolists.

Gentiania. Two chemists, M. Henry and M. Caventou, at the same time, but distinct from each other, succeeded in extracting from the roots of the common Gentian (G. lutea) an active, bitter principle. Its alkaline properties are but feeble. Its best solvent is ether. It is yellow, inodorous, and has the aromatic bitterness of the gentian in a decided degree.

"*Action of gentianine upon man and other animals.* Some trials which I made, taught me that gentianine has no poisonous qualities.

Several grains of this substance injected into the veins, produced no apparent effect. I myself swallowed two grains dissolved in alcohol, and only experienced an extreme bitterness and a slight feeling of warmth at the stomach.

Mode of employing gentianine. The tincture is the preparation which should be most frequently used. It may be prepared from the following formula:

Tincture of gentianine. ℞ Alcohol at 24°, 1 ounce,
Gentianine, 5 grains.

This tincture replaces with success the elixir of gentian, and is employed in the same circumstances.

Syrup of gentianine. ℞. Syrup of sugar, 1 pound,
Gentianine, 16 grains.

It is one of the best bitters which can be used in scrophulous affections." p. 84.

Iodine. This simple substance, discovered by Curtois in 1813, has attracted an uncommon degree of attention. It was first detected in the sea weed which is used in the manufacture of soda; but has been since found in a great variety of marine plants and animals—such as shell fish and sponges; it exists likewise in sea-water, and in several mineral waters. It is remarkable, therefore, that it should not have been sooner discovered. Of mineral springs, the salino-sulphurous most constantly afford it. In the Western States these waters are abundant, and probably all contain this substance. None of them have yet been analysed with care; and they offer, therefore, an interesting subject of inquiry to such of our physicians, as are qualified for chemical researches. We should be much gratified to make public the results of their analyses.

Iodine, like Cyanogen, unites with Hydrogen and forms an acid, the Hydriodic, with which several neutral salts are formed. It also combines with Oxygen, and constitutes the Iodic acid. In sea and mineral waters, iodine exists in the state of a hydriodate of potash, and perhaps also of soda.

The interest which Iodine has excited among the physicians of the United States, will justify us in the following extended extract from M. Majendie's work:

"*Action of iodine upon man and other animals.* A little while after the publication of his handsome work on iodine, M. Gay Lussac sent me a certain quantity, in order that I might study its effects

upon animals. I made immediately some experiments, in which I introduced the tincture of iodine into the veins, in the dose of 1 gros, without any apparent effect.

I made also several dogs swallow it, who vomited, but experienced no other effect.

Seeing this innocuity of the new substance, I swallowed myself a tea spoonful of this tincture, and there resulted nothing but a disagreeable taste, which remained several hours, but finally dissipated by little and little.

I have seen lately an infant four years old, to whom, by mistake, was given a tea spoonful of the tincture prepared by M. Pelletier; its lips and tongue were colored yellow, but no accident followed this event.

Besides the therapeutic properties of iodine, one of its most remarkable effects, when the employment has been continued for some time, is the dimunition of volume of the mammary glands in woman and of the testicles in man.

Cases in which the preparations of iodine are employed. M. Coindet, physician at Geneva, is the first who employed the iodine as a remedy; he used it in the treatment of goitre with very marked success. These attempts have been repeated since, as well in France as in Swisserland, by several physicians; and it seems to result, from their observations, that we have now in iodine an efficacious remedy against a disease which has sometimes shown itself so obstinate.

Although we ought especially to expect success from the employment of iodine when the goitre is recent, and in individuals who have not yet reached an advanced age, however, we have seen it dissipate old goitres, hard and voluminous; but, as in this case the treatment is necessarily longer, there may result from the long continued use of iodine an action injurious to the stomach: to remedy this inconvenience it has been sought to introduce iodine by another way, by that of frictions.

If new examples were necessary to prove to practitioners at this time the advantage of simple remedies over ancient formulas, we could cite the cases collected by Mr. William Rickwood, of goitres cured by iodine, while we have before used burnt sponge, but with only a partial success. (Lond. Med. and Phys. Journal, Aug., 1823.) Among the facts reported by this physician there is a curious one; it is the cure of a goitre, or at least a very considerable diminution of one, in a female aged 70 years.

Iodine has been employed in the treatment of scrophula with an equal appearance of success: a great number of cases have just now confirmed the utility of this remedy in that disease. M. Baup has cured, by the use of iodine, old scrophulous ulcers. I have myself obtained, by this means, the resolution of very considerable glandular enlargements.

In the report on the Polyclinic institute of Berlin, for the years 1820, 21, and 22, Messrs. Hufeland and Osann, after having reported several cases of goitre cured by the tincture of iodine, and the hydriodate of potash, announce that some advantage has also been drawn from the same preparations of iodine, over scirrhus and carcinoma of the uterus. Dr. Wagner asserts that he has obtained good effects from iodine in the treatment of a tumor which he regarded as cancerous, and which was situated near the jaw. Doctor Hennemann (Journal der pratisehem heis Kunde) has also reported a case in which it seemed in fact that iodine had had a remarkable influence on a cancer of the womb arrived at the last stage; there was a communication between the vagina and the abdominal cavity, so that a cure could not take place; but the cancerous affection, says Dr. Hennemann, was much ameliorated.

M. Zinck, in 1823, read to the National Society of Lausanne, a memoir in which he reports two cases of white swelling cured by the preparations of iodine.

In the memoir of M. Gardiner on iodine, there is found a similar case of cure, which was communicated to him by Prof. Maunoir, of Geneva. A child had a considerable white swelling of the knee.—There was incapacity to walk without crutches: blisters, leeches, and resolvents of all kinds had been employed; friction was made morning and night on the tumour with a portion of iodine ointment as large as a nut; the tincture of iodine in the dose of 1-2 a grain at most was given internally. After some time the cure was complete.

M. Zinck has again published two memoirs (Journal Complimentaire, April and May, 1824) upon the abuse of iodine used internally, in which he has shown that the action of iodine prolonged for too long a time may bring on inflammation of the stomach; but this accident has only taken place from the abuse which the patients made of it from the hope to obtain a more prompt cure, or even to prevent the evil.

Lately the use of iodine has spread in England, where it has been used but by a very small number of Physicians. Dr. Gairdner has published an interesting memoir on the effects of iodine upon the animal economy, and on the advantages to be derived from it in the treatment of goitre, scrophula, and tuberculous affections of the lungs and abdomen. We would observe that it is very rare that iodine causes the serious accidents that are attributed to it by Dr. Gairdner: it is necessary that it should be administered with as little rule as it was by the young students of whom the author speaks, who wished himself to cure his sister of a goitre which she had. Dr. Baron, of London, appears to have administered iodine with some success in the treatment of scrophulous phthisis, and some other tuberculous affections. These first attempts require that we should collect new facts, that we may know to what point we may calculate upon the efficacy of iodine, when phthisis is but little advanced.

The late Mr. Haden, in his English translation of our Formulary, has also reported a case of phthisis, presumed cured by iodine.

M. de Fermon obtained very good effects upon a young woman with phthisis, by the following potion, which was taken a tea spoonful at a time every hour:

℞.	Lettuce water,	4 ounces,
	Solution of hydriodate of potash,	15 drops,
	Medicinal prussic acid,	10 to 15 drops,
	Syrup of marshmallows,	1 ounce,

Or the prussic acid and the syrup of marshmallows may be replaced by cyanic syrup.

This same Dr. Baron, whom we have just cited, reports in his Treatise on Tuberculous Diseases, a case of encysted dropsy of the ovary, in which the use of iodine was followed by the most prompt and most marked success. Dr. Gairdner, who cites this fact in his memoir upon iodine, and says that he had also advised it with great success in a similar case, prescribed it in several cases of acites, but obtained no good effect.

M. Coindet praises iodine as a powerful emmenagogue: this last property has been confirmed by the observations of Prof. Brera (Saggio Clinico sull' Iodio, Padoue, 1822) and of some other physicians.

M. Brera has even administered the preparations of iodine in the treatment of a much larger number of patients than M. Coindet has. To the cases of goitre and suppression of the menses cured by iodine, he has joined several cases of glandular indurations, tabes mesenterica, chronic dysentery, hemoptysis succeeding suppression of the menses, laryngeal phthisis, fluor albus, syphilitic enlargements, the cure of which he attributes to this same remedy. It may be that M. Brera too often joined other substances with the preparations of iodine, to which last he attributes the efficacy. We must not, therefore, employ these but with caution in similar cases. Further, M. Brera is not the only one who has given iodine for tabes mesenterica. M. Callaway, a distinguished English surgeon, has derived from the use of tincture of iodine the most happy results in scrophula and in enlargements of the mesenteric glands.

Iodine has been used lately for the treatment of syphilitic bubos and of blennorrhagia.

M. Richond, (Archiv. Gen. de Med., March, 1824, p. 322,) military physician of the hospital of Strasbourg, employed it with advantage in the treatment of these two diseases.

This physician gives generally in the morning 15 drops of the tincture, 20 to 25 the second, and 30 the third day. He commences, then, to give 15 drops at night, and augments in that way up to 30 drops morning and night. This dose is continued three or four days: finally, he carries the dose to 50 and 55 drops morning and night. If there be no irritation of the stomach, the patients experience sometimes a sentiment of burning in the pharynx; but this sensation soon dissipates: there are at times slight colics,

headache, dryness and redness of the tongue; then suspend it for a short time. The dose most proper is 30 drops morning and night. M. Richond has only treated soldiers thus, the most part robust and little excitable.

Messrs. Gimelle (Revue Medicale, v. 7, p. 249) and Sablairolle have reported cases which will confirm the properties which Messrs. Coindet and Brera attribute to iodine against leucorrhœa. M. Gimelle has even cured dartres, by means of preparations of iodine. M. Eusebe de Salle has treated with success, by frictions of ointment of hydriodate of potash and iodine in pills, chronic enlargements of the testicles and chronic enlargement of the liver, which the English call "liver complaint," and which arise from the residence of Europeans in equatorial countries.

A veterinary physician, M. Roupp, attached to the depot of Stallions at Abbeville, wished to make use of the hydriodate of potash in the treatment of the glanders: he gave from 9 to 14 grains of the hydriodate of potash, for a month, to a horse, and had him rubbed with an ointment made with this salt This first attempt was without effect; it seemed even to augment the fever: perhaps the dose was too powerful. In the animal there was a too considerable disorganization of the lungs, of the pituitary membrane and of the bones which it covered, to hope for a cure. (Jour. Gen. de Med., April, 1824.)

At the end of the year 1822, the Geneva and Swiss physicians were much out of conceit of the advantages which they had at first thought to have reaped from the preparations of iodine: they pretended that serious accidents had followed their use, such as chronic inflammation of the stomach, and considerable and rapid diminution of all parts of the body, particularly of the breasts. We have given the reason of it. I have never seen such accidents, at least if the doses have not been too large; but this is no small reason to be very circumspect in employing the new preparations.

Mode of employing iodine.

Tincture of iodine. ℞ Alcohol at 35°, 1 ounce,
Iodine, 48 grains.

This tincture should not be prepared long before it is used, because it soon deposits the crystals of iodine; there is reason to fear, besides, that the iodine might deprive the alcohol of part of its hydrogen, and thus be converted into ioduretted hydriodic acid.

The tincture of iodine has been used with much success in the cure of goitre; it has also been employed in the treatment of scrophula, but not so often as the two following preparations:

The tincture of iodine is given to adults in the dose of 4 to 6 drops, 3 times a day, in a half glass of sugar and water; it may be augmented progressively up to 20 drops, three times a day; 20 drops contain 1 grain.

Ioduretted sulphuric ether.

℞ Sulphuric ether, 1 grain,
Pure iodine, 6 grains.

Thirty drops contain 1 grain of iodine. Patients hardly support more than 10 drops at a time.

Solution of the hydriodate of potash.

℞ Hydriodate of potash, 36 grains,
Distilled water, 1 ounce.

This solution is still capable of dissolving iodine, and thus to form an ioduretted hydriodate of potash.

If it is wished to make a solution called Coindet's, it is sufficient to add 10 grains of pure iodine to the solution of hydriodate of potash indicated above.

These two preparations, the mode of administration of which is the same as that of the tincture of iodine, are employed like that in the treament of goitre and scrophula; in the latter case there is usually associated some medical tonic.

Ointment of hydriodate of potash.

℞ Hydriodate of potash, 1-2 gros,
Ungt. simplicis, 1 1-2 ounce.

The dose of this ointment, which is used in friction, morning and evening, in goitre and enlarged scrophulous glands, is a demigros for each time. In about eight days it may be carried to 1 gros, and even more, according to the age of the subject and the extent of the tumour.

Sometimes, by this means, a complete resolution is obtained of tumours which the saline solutions have not entirely dissipated.—This ointment has been employed in divers cases of enlargement of the testicles, which have not yielded to the influence of other means; sometimes also, the treatment by friction does not produce a complete cure, and often it is necessary to combine the two means. In general, in the treatment of scrophula, more advantage seems to be derived from the use of saline solutions.

When the method of friction is used in the treatment of goitre, it is well sometimes, to aid the action of iodine by emollient fomentations or leeches. Sometimes, after the first frictions, the goitre, so far from softening, becomes hard, and slightly painful; the application of a few leeches ordinarily causes this local irritation to disappear, and the effects of iodine are then shown in a very marked manner.

This ointment may be made more active by adding 10 or 15 grains of pure iodine, which forms what is called the ointment of ioduretted hydriodate of potash." pp. 90 to 99.

We have administered Iodine to a number of patients afflicted with different maladies; but are not prepared to speak of its powers in the language of eulogy. Our expectations, in fact, have not been realised. The absorption of the mammæ and testes, which its long continued use is said to have occasioned, has not occurred in our practice. Nor has it pro-

duced other sinister effects, although administered to a variety of persons in liberal quantities. When not sufficiently diluted, it occasions gastrodynia, without vomiting or stupor; and in large doses would, no doubt, excite acute gastritis; for when externally applied, its irritating effects are extremely violent. We have found an ointment containing only a fiftieth part of its weight of iodine, to smart the skin intolerably, and produce a fiery papular eruption. This is the strength of the ointment of iodine and calomel of Coindet; which, according to our experience, is at least twice as strong as is adapted to practice in this country. We have recommended the tincture of iodine in the scrophulous affections of the negroes of Kentucky, but did not find it successful. Our trials have not, however, been numerous. In a case of chronic bronchitis, attended with dilatation of the cavities of the heart, it afforded some palliation. The patient, a medical gentleman of correct observation, at first took the tincture, and became well acquainted with its taste. At a subsequent time, he used the medicine in substance, in the form of pills, when he recognised its flavour in the mucous which he expectorated—an evidence of its absortion and elimination from the lungs, like the odorous parts of garlic. We have mentioned in the eighth number of the Western Medical and Physical Journal, the beneficial influence of our medicine in a case of scrophulous opthalmia. No return of the malady has since taken place. The same child had a scrophulous tumour of the cheek, which began to suppurate before it entered on the use of the medicine. The suppurative action continued, but the abscess never broke, and seems likely to heal by absorption and granulation. The medicine was used both internally and externally. From the alledged power of Iodine in promoting the absorption of solid parts, we have been induced, in the practice of the Cincinnati Eye Infirmary, to administer it for the removal of the films and nebulæ, which give opacity to the cornea, after violent opthalmias; but its effects, in that way, were not very obvious. We have directed our medicine in one case of irritable testis, of several years standing, unconnected with syphilis or gonorrhœa. For a

time it seemed to afford some mitigation; but the ultimate benefit was inconsiderable. To a woman with stricture of the œsophagus, we have administered the Iodine for four months, without any abatement of the malady, or material change in her general health, which was delicate. This patient has a slight enlargement of the thyroid gland; which suffered no diminution during the use of the medicine. In common with some of our brethren, we have, in a spirit of empiricism, directed the tincture of iodine in several other cases, agreeing in little else, than this obstinacy under ordinary plans of treatment; but, on the whole, have not obtained very encouraging results.

The remaining articles of this work are Lupuline, Croton oil, Piperine, Urea, Euphorbia latyris, Lactucarium, Gold and Platina, some of which present matters of interest; but the extent which our review has already attained, admonishes us to come to a termination.

We commend the publication of M. Majendie, for we are not among those who disapprove of the search after new medicines. To look out for new emetics or cathartics, would, it is true, be a work of supererogation; but our therapeutick armories are not limited to the means of promoting evacuation. Many of our most useful articles, are those which produce no sensible effects on the excretory organs, of which Opium, Bark, Arsenic, and Mercury under certain modes of administration, may be mentioned as examples. Even the most beneficial effects of Antimony are, in many cases, almost independent of its evacuating operation. Diseases, on the whole, have a more specific character, than many theorists and system mongers are inclined to admit; and we want a greater number of medicines, possessed of something like a specific power, in reference to particular morbid actions. Such a power, as the Sulphate of Quina, and the Deuto Chloride of Mercury, possess over ague and fever and syphilis. That the catalogue of this class of remedies (if we may be permitted to class them on the principle of their relations to particular maladies) will be greatly augmented, we entertain no doubt; and it is, perhaps, chiefly to chemistry that we must look

for the acquisition. No other science is so fertile in both discoveries and creations; and they equally administer to the progress of clinical medicine. It reveals to us things which would forever have been concealed, such as Morphia, Quina and Antimony, while it may fairly be said to create those sulphates and tartrates of these natural productions, which are so precious to us in the practice of medicine. The number and variety of these creations are absolutely without any limits, as the chemists may increase them at pleasure, by the skilful junta-position of known elements. We regard it, therefore, as a justifiable anticipation, that the Materia Medica is destined to be enriched with new articles, until its powers shall far transcend the imperfect resources of the present time.

The translator, Dr. Atlee, has not substituted, as we think he ought, the English for the French weights and measures, throughout the body of the work; but given an appendix of comparative tables. For the use of those who may not understand the subject, we shall subjoin them.

TABLES,

GIVING A COMPARATIVE VIEW OF THE FRENCH WEIGHTS AND MEASURES WITH THOSE USED IN THE UNITED STATES.

French grains.	*English* grains.	*French* grains.	*English* grains.
1	0,8203	6	4,9223
2	1,6407	7	5,7427
3	2,4611	8	6,5631
4	3,2815	9	7,3835
5	4,1019	10	8,2030

grain			*English grs.*	*Troy weight.*
1		. . . . . =	0,8204	
72	*gros*	. . . . =	59,0703 or	. . ℈ij. 19,0703 grs.
576	8	*ounce* . =	472,5625 or	. ℥vij. 52,56 "
9216	128	16 | 1 *pound* =	7561,0000 or	℔xv. ℥vj. 1, "

The above French division is that called *pois de marc*, being that formerly used in France. It is this measure that is used in the body of this work. The English division to which it is reduced is that of *troy weight.*

I have given below the new French divisions, reduced to troy weight also.

French division.		*Troy weight.*						
		grains.						
Milligramme .	=	,0154						
Centigramme .	=	,1544						
Decigramme .	= . . .	1,5444						
Gramme . . .	= . . .	15,4440	pd.	oz.	dr.	sc.	gr.	
Decagramme .	= . .	154,440	0	0	2	1	14	44-100
Hecatogramme	= .	1544,400	0	3	1	2	4	4-10
Kilogramme . .	= .	15444,023	2	8	1	0	14	

The French litre contains 2,1133 English pints, and the French pint 2,0171 English; so that the difference between them and the English quart measure is but trifling, and they may be used as synonymous. The same may be said of their gros and our drachm.

Troy weight.					*French grains.*	
grains.						
1	. . . . .	=			1,218	
20	*scruple*	=			24,378	
60	3	*drachm* . . .	=		73,135	1 gros. 1,135 gr.
480	24	8	*ounce* . .	=	585,083	1 oz. 9,083 gr.
5760	288	96	12	1 *pound* =	7021,	12 oz. 1 gros. 27 gr.

ART. III.—*Observations and Experiments on the Efficacy and Modus Operandi of Cupping-Glasses, in preventing and arresting the effects of Poisoned Wounds. By* CASPAR WISTAR PENNOCK, M. D. *Philadelphia*, 1828. *pp.* 20.

The experiments and conclusions of Dr. Barry, on the influence of cupping glasses, in preventing the deleterious effects of poisons introduced into wounds, are now so generally known to our readers, that we consider it unnecessary to state them in our notice of this little work. Dr. Pennock's design, was to ascertain their correctness. For this purpose, he employed concentrated hydrocyanic acid, strichnine, upas tieute, and arsenious acid. His experiments were performed on rabbits, and seem to have been conducted with the requisite

skill and circumspection, in the presence of several medical gentlemen. The following are his conclusions:

First. The usual effects of poisoned wounds cannot take place during the absence of the atmospheric pressure procured by the application of cupping-glasses.

Second. Such application does not arrest the deleterious action of the poison by withdrawing it from the exposed surface; on the contrary, the fatal effects are wholly prevented, though not a particle of the substance employed has been abstracted. In proof of this, if a poison, in powder, (strychnine or arsenic for instance,) be conveyed by a tube through a narrow wound, in an oblique direction under the integuments, to some distance from the opening by which it is introduced, and there deposited—and under these circumstances the glass be applied over this spot, where the skin is sound and unbroken, the wound being without the bounds of the glass, none of the poisonous substance will be removed, and yet no indication of its action will be presented during the time of the application of the glass.

Third. The constitutional symptoms, such as tetanic convulsions, etc. are arrested by the establishment of a vacuum on the poisoned surface; then by removing the poison by an incision through the integuments, the life of the animal is preserved.

Fourth. When the cupping-glass is applied over the opening made in the integuments for the purpose of introducing the tube containing the poison, and this is deposited under the skin beyond the circumference of the glass, none of the effects are manifested during the continuance of the vacuum, but as soon as the cup is removed, the action of the deleterious article commences.

Fifth. If during the application of the cupping glass, placed as just stated, an incision be made between its edge and the place at which the poison has been lodged, death will ensue as speedily as though the atmospheric pressure had not been removed.

Sixth. If after the application of a glass for a given time, to the sound skin over the spot where the poison has been deposited, the glass be removed, death will then ensue as soon as if no such application had been made.

This last position is entirely at variance with the observations of Dr. Barry. He expressly says, that "after the glass had been taken off, the animal continued for one or two hours to carry imbedded in his cellular tissue a dose which would infallibly have destroyed him in a few minutes, had the cupping-glasses not been previously applied.

I have repeatedly observed, however, that if the animal was abandoned to his fate after the glass had been removed, after an application of it for an hour or more, that death took place as soon afterwards as it ordinarily did when no vacuum had been formed."—pp. 6—7.

Not satisfied with Dr. Barry's explanation of the *modus operandi* of cupping-glasses in the production of these effects, Dr. Pennock sought for some other. The following are his words:

"Agreeably to Dr. Barry's view, external absorption is not a vital function, but it, as well as the circulation in the absorbing vessels, is a physical effect caused by atmospheric pressure, the fluids passing through the absorbents precisely as a liquid is forced into, and rises into a Torricellian vacuum.

Dr. Barry, in support of his opinions, appeals to the series of experiments: the truth of the results of which, as stated by him, I have had the pleasure to confirm. His view, however, of the modus operandi of the cupping-glasses in preventing the effects of external poisons are, I am induced to believe, entirely erroneous.

The results of some experiments which I instituted with a view of testing the principle, whether their efficacy *depends merely on the abstraction of atmospheric pressure*,, have convinced me that such is not the fact.

It is true that the exhaustion of air from within the bounds of the glass, relieves that portion of the body inclosed within its periphery from the usual atmospheric pressure: but the parts *beneath* the *circumference* of the cup, suffer an increase of pressure proportionate to the diameter of the glass. Thus the glass which I used, being one inch and a quarter in diameter, the animal suffered an increase of pressure on the part just indicated of at least fifteen pounds." p. 16.

To this *pressure* Dr. P. was led to ascribe the efficacy of cupping-glasses, and proceeded to verify his theory by experiment. He has given us the details of three, which he regards as conclusively in the affirmative. It is not, then, the *diminution* of pressure within the circumference of the glass, when exhausted of air, but the necessary *increase* of pressure under that circumference, from the weight of the air upon the glass, which prevents the constitutional effects of the poison. This pressure, he remarks, may arrest the functions of both the vascular and nervous systems of the part, and thereby prevent a constitutional disturbance, whether it results from absorption or sympathy. Admitting the fact, which we see nothing to justify us in denying, it follows, that pressure to or about the poisoned wound, by any other instrument or means than the cupping-glass, provided it be equal in degree, will be equal in effect: a practical fact of importance, seeing that

in the country, cupping glasses and even the skill necessary to use them with efficacy, are often wanting. Pressure over the part to the amount of 15 or 20 pounds to the square inch being the *desideratum*, it may be made in any manner that is at the time most convenient. It should be continued for hours or even days.

From the great efficacy of cupping, and of pressure by other means, in arresting tetanic symptoms from strichnine, Dr. P. is inclined to recommend the same application in traumatic tetanus, or in wounds which threaten to occasion that desperate malady. The suggestion seems plausible, and we hope that such of our readers as may have an opportunity, (the number we trust will be few) will think it worthy of being tested by experiment.

MISCELLANEOUS INTELLIGENCE.

I. ANALECTIC.

1. *Permanent Evidence of Successful Vaccination.* Under this head, Dr. George Gregory has published a paper in the MAY No. of the Medical and Physical, in which he modestly disclaims all title to much novelty—and only hopes to be useful, by refreshing the memory on certain minute points connected with vaccination. We shall give a very brief abstract of these minute points.

First. A proper vaccine scar should be distinctly defined, even after a lapse of 20 years; in order to which, it is nearly indispensable that the scab should remain on—or, at least, that cicatrization should not be completed till the 21st day. In some cases, the cicatrix is formed by the 14th or 15th day—and then "vaccination is imperfect."

Second. The true and perfect vaccine scar is circular, or nearly so. When common inflammation supervenes early, the scar is irregular in form, and the system is still open to the small-pox, more or less modified. The diameter of the circular scar is not material. The largest, however, which he considers compatible with safety, will be that of a six-pence, or small wafer.

Third. The vaccine scar should be indented and radiated; though he does not insist on these appearances as a *sine qua non* in the proofs of perfect vaccination.

The sources of imperfection in the process of vaccination are chiefly the following:—effete virus; hence the inocculation should always be with fresh matter, and not by points, if possible:—pre-occupation of the system by some other important process, as dentition, visceral inflammation, fever, hooping-cough, porrigo favosa, or herpes:—and, lastly, a too advanced period of life at the time the process of vaccination is instituted.

For several collateral remarks and observations, all of a practical nature, and all indicative of the sound judgment and accurate discrimination by which the author is characterised, we must refer to the original paper in our cotemporary for May last.

In the same journal there are two papers connected with the subject of vaccination—one by Mr. Dalton, an eminent surgeon of Bury St. Edmonds, who describes an epidemic variola, against which vaccination made a bold and successful stand—the other by Dr. Morton, Physician to the Metropolitan Infirmary for Children, in which

it is shown that, in his own experience at least, the proportion of variolous attacks after vaccination does not exceed four per cent. at the most. In the case of failure, the disease was generally very mild." *Med. Chirur. Rev. Oct.* 1827, *p.* 459.

2. *Ununited Fracture Cured by Pressure.* In a note to the article on "carotid aneurism" in our last number we alluded to this case but gave no particulars of the treatment. These have since been detailed by Mr. Brodie in our esteemed contemporary for July, and it may not be uninteresting, just to glance at the means by which the cure was affected.

J. M'Ewen, æt. 24, broke his right arm and left leg, in November, 1825. He was taken to a hospital and treated in the usual way.—The fracture of the leg did well, but no union took place in the arm. In August, 1826, he went to Panton Square, when Mr. Wardrop passed a seton, which was withdrawn at the end of a week. After a time the patient was discharged, and reported as *cured* in the Lancet. In Nov. 1826, he entered St. George's, the broken ends of the bone appearing to be united by ligament, riding one over the other, and admitting of extensive motion. Mr. Brodie now determined on applying pressure, on the principle suggested by Mr. Amesbury. The fore-arm being semi-bent, a wooden splint adapted to its figure, and reaching from the axilla to the fingers, was applied on the inside. On the outside of the arm, a straight splint was placed, extending from the shoulder to the outer condyle, and both splints were then secured by bandages. Over all there was a tourniquet, the band of which embraced the fracture, whilst the degree of pressure thus made on the broken bone was easily regulated by the screw, which was on the outside of the arm. The splint on the inside being broader than the limb, and only slightly concave, the principal vessels were defended from pressure, and whatever was the force employed, the circulation was but little interrupted. In six weeks, the motion of the fractured bones was much diminished, and at the end of three months none was perceptible. On the 31st May, the man left the hospital, the bones being firmly consolidated and the arm as useful as before the accident.

This case does credit to the ingenuity and perseverance of Mr. Brodie, and we have no doubt that pressure, properly and steadily applied, will prove effectual in many, if not most, of those cases of ununited fracture, which have been not unfrequently an approbrium to surgeons and surgery." *Ibid, p.* 478.

II. ANALYTICAL.

3. *Poisoning with Sulphuric Acid.* In the eloquent life of Mr. Ledyard, the American traveller, just published from the

pen of Mr. Sparks, it is stated that the Traveller, when preparing to depart from Cairo for the interior of Africa, "was seized with a bilious complaint, which he thought to remove by the common remedy, *Vitriolic Acid.* Whether this was administered by himself, or by some other person, is not related; but the quantity taken was so great, as to produce violent and burning pains that threatened to be fatal, unless immediate relief could be procured. This was attempted by a powerful dose of *tartar emetic.* But all was in vain. The best medical skill in Cairo was called to his aid without effect." That he should have died under such a method of treatment, is not surprising. It is not our purpose, however, to rail against our Egyptian brethren, but to connect with the name and fate of our distinguished countryman, a catalogue of the proper antidotes for the poison which occasioned his death; that we may contribute our mite towards their general dissemination.

When the liquor called Sulphuric Acid, Vitriolic Acid and Oil of Vitriol, or the medicine formed from it and denominated Elixir Vitriol, is taken to excess, tartar emetic should not be administered, for it would be decomposed; and, if it were not, the apprehended mischief would be perpetrated before it could operate. An alkaline agent is that on which we should rely; and when one is not at hand, another should be taken. Calcined Magnesia, according to Orfila, is the best, and may be taken by the table spoonful. The lump or carbonated Magnesia will answer very well. The supercarbonate and the carbonate of Soda; the supercarbonate of Potash, or sal æratus, the carbonate of potash or salt of Tartar, and a ley made of common wood ashes, are equally good. In the absence of all these, powdered Chalk, Lime-water, or Quick lime, if within reach, may be administered. Finally, should none of these be attainable, at the moment, the contents of the hartshorne or the smelling bottle (carbonate of Ammonia) may be emptied into the patient's stomach. If the acid were taken in a concentrated state, it would be useful to drink water freely; but, that its union with the poison, would develope a degree of heat, that might more than counterbalance the good effects of the dilution. Meanwhile, if vomiting can be

excited by irritating the throat, it should be done; or the stomach may, perhaps, be emptied by strong pressure with the fists applied over that organ, the patient being placed with his face downwards, and his head and shoulders considerably lower than the trunk of his body; or the stomach pump may be used.

The same antidotes will be proper when the Nitric, Muriatic, or any other strong acid, has been taken.

The experienced physician will, we trust, excuse this enumeration, seeing that it may, possibly, be useful to the younger members of the profession; and finding its way to the people at large, may enable them, occasionally, to save an unfortunate person, who might perish before medical advice could be obtained.

III. ORIGINAL.

5. *Winter Quarterly Report on the Diseases of Cincinnati, concluded.* In our last number we spoke of Bronchitis, as constituting the predominant disease of the past winter. We must now say, that it was not the only form of thoracic inflammation which occurred among us. Cases of Croup, Pleurisy and Pneumonia were, occasionally, met with, both distinct from Bronchitis and associated with that malady; but they were, comparatively, rare. Indeed, according to our own observations, the pulmonary diseases of Cincinnati have, in these lat years, undergone a change, in their relative frequency; so that Croup and Pleurisy are less frequent, while Bronchitis is more common, than in former years. We do not pretend to have discovered the cause of this variation; but, at present, feel assured of its reality. Perhaps the denser population of the city; the establishment of a great variety of manufactures; the erection of more than twenty stationary steam engines; and the establishment of half that number of foundries, in all of which the combustion of a stone-coal, abounding in bitumen and sulphur, takes place to a great extent; finally, the multiplication of stone-cutters yards, where large quantities

of friable sand-stone are sawed, cut and polished, in which operations clouds of arenaceous dust are sent abroad, may have given to the city a factitious atmosphere, which has deranged, to a certain degree, the vital properties of the Bronchial membrane, and predisposed it to the action of vicissitudes of temperature. If this can explain the greater frequency of Bronchitis, it will, at the same time, account for the comparative rarity of other forms of pulmonary disease; for the influence of atmospheric changes being invited upon the mucous membrane of the lungs, their other tissues would, of course, in a great degree, escape.

Treatment of Bronchitis and other Pectoral Inflammations. It is not our design to enter fully into this subject. We shall limit ourselves to a few remarks on the more important remedies, and first of BLOODLETTING. It would be superfluous to urge upon the profession the necessity of early, copious, and, in many cases, repeated bloodletting, in acute inflammations of the serous membranes of the chest and lungs; or to insist on the value of cupping, in those of a chronic character; for every physician is aware of the importance of these remedies, in such cases. But in Bronchitis both acute and chronic, venesection is often omitted to the great, if not fatal, injury of the patient. It is not difficult to perceive the causes of this omission. In the first place, many cases of bronchial inflammation are unattended with pain or a tense pulse; two circumstances which tend, as powerfully as negatives can tend, to divert the mind from venesection. Secondly, when the disease is accompanied with pleuritic pain, it is, also, attended with expectoration, which is apt to suggest to the physician, that it is a case of pleurisy or pneumonia, in the expectorating stages, when bloodletting is, in general, contra-indicated. Thirdly, bronchitis very frequently attacks infants and aged persons who are *cæteris paribus*, much less frequently and copiously bled, than those in middle life. From the influence of these causes many patients have been lost, who might, by the judicious employment of the remedy under consideration, have been saved. As every thing, however, has its limits, so it is possible, in bronchial inflammation, to carry venesection

too far. Of this abuse we have met with several instructive examples. When the disease has existed for several weeks, and is attended with copious expectoration, the powers of the system are apt to fail from the further loss of blood, and the patient to sink under the copious secretion, almost passive, which is going on from an extensive surface. *Tartarized Antimony.* We have found this medicine of great value in Bronchitis. It may be adapted to every stage. In the early and acute periods of the disease, it may be administered in liberal quantities, alone, or combined with nitrate of potash, so as to nauseate, heavily, and excite full vomiting; which never fails to give signal relief, provided bloodletting has been premised. In more advanced stages it may be conjoined with Opium in pills, or laudanum may be added to a solution of the tartrate. *Calomel and Squills.* We have employed this combination with much advantage in Bronchitis. When the disease is not extremely acute, the cure, after a single bloodletting, may be commenced, with this compound; and in mild and chronic forms we have often, with success, made it the first remedy. It should be administered, for two or three days, in such quantities, as to nauseate the patient; and, by the end of that time, to have produced some effect on the mouth. It may, then, be followed by gentler measures. *Digitalis.* This is an important remedy, in the more chronic cases. When the inflammatory action is considerable, we give in connexion with tartarized antimony, in a dilute solution. The following formula, on the whole, is the best we have employed:

℞ Tartarized antimony, gr. ij.
Saturated tincture of digitalis, ʒij.
Spirit of nitros ether, ʒvj.
Mucilage of gum arabic, with distilled water, ʒvij. Mix.

A table spoonful (ʒss) to be given every 2, 4, 6 or 8 hours, according to circumstances; and repeated 'till the pulse experiences the characteristic power of the digitalis. In advanced stages of the disease, the tincture of opium should be added to the solution, in such quantities as to keep the patient slightly under its action. We have met with cases which required the long continued administration of digitalis. In

many of these, we have united the tincture, with the compound tincture of Benzion, so long celebrated among the people, by the name of Balsam of Life, and used and abused in pectoral maladies. The combination of which we speak, diminishes expectoration, allays morbid irritability, and strengthens the lungs, in a more decided manner than any other medicine with which we are acquainted. Of the *Colchicum* we have already expressed our opinion at p. 94 of this number. The *Bark.* There are stages of bronchial inflammation which call for this medicine. In phlegmatic temperaments, when the disease has existed for some time, the expectoration is profuse, and the pulse feeble and frequent, the Bark may be administered with great effect. Opium, under these circumstances, is an excellent adjuvant. The pulse speedily becomes slower and fuller; the expectoration diminishes; and the cough, which is kept up by the irritation of secreted mucus, consequently abates; while all the symptoms are aggravated, even to a fatal degree, under a debilitating plan. *External applications.* We have not found blisters or tartarized plasters, so beneficial in bronchitis, as many of our brethren suppose them; if we may judge from the frequency with which a resort is had to them. When pleuritic pain exists, they are useful; but in the absence of this, we have not often seen them effect much. It is necessary, however, to attend to the state of the skin, which is often unhealthy. In feeble constitutions, when the disease is of a subacute character, the cutaneous circulation is defective, especially in the lower extremities, and the feet are apt to be cold. The perspiration is of course suspended, and the lungs are in a state of congestion. This condition, occasionally, requires bloodletting; and when that remedy is beneficial, it is always followed by increased energy of the pulse. The greater number of cases, however, do not require, or even admit of, venesection. In all of them a hot salt, foot-bath, of the strength of a pint of common salt to the gallon of water, used twice or thrice in the course of twenty-four hours, with sinapisms to the soles of the feet, and, in some cases, blisters to the ankles, is attended with the happiest effects. After two or three days, the heat be-

comes equally distributed, the perspiratory function is restored in an equal degree, the determination upon the mucous membrane is diminished, and the dyspnœa of the patient sensibly mitigated. With these remarks we dismiss the subject.

TO SUBSCRIBERS, CORRESPONDENTS AND EDITORS.

1. It will be recollected that our numbers are to consist of 56 and 48 pages alternately. On this plan the present number would comprehend 48 only. As a considerable part of the Discourse on Intemperance may not, however, be regarded as sufficiently professional, we have extended the number eight pages beyond its proper limits, which, we hope, will satisfy all who are interested.

2. The third number, which will be put to press immediately, will contain Original Essays and Cases, by Dr. Coons, of Alabama, Dr. Brower, of Ohio, and the Editor.

3. The following Journals have been received, in exchange:—

The American Medical Recorder, for April, 1828.

The American Journal of the Medical Sciences, for May.

The North American Medical and Surgical Journal, for April.

The New-York Medical and Physical Journal, for January, February and March.

The American Journal of Science and the Arts, for the same period.

The Transylvania Journal of Medicine and the Associate Sciences, Nos. 1 and 2.

The Boston Medical and Surgical Journal, (weekly) from No. 2 to 14—(1st No. miscarried.)